

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A process for preparing a catalyst structure, comprising:

forming a continuous layer of a catalytic material on a surface of a substrate; and

forming the catalyst structure by separating the continuous layer of the catalytic material into droplet-shaped bodies of the catalytic material adhered to the substrate;

wherein:

the continuous layer of the catalytic material is in the form of a film;

the surface of the substrate has a surface tension lower than a surface tension of the continuous layer of the catalytic material when the continuous layer of the catalytic material is formed on the surface of the substrate;

the catalytic material is a material suitable for catalyzing formation of carbon nanotubes or carbon nanofibers;

the continuous layer of the catalytic material is formed by making a sequence of deposits of the catalytic material on to the surface of the substrate to form continuous sublayers of the catalytic material separated by waiting phases under a vacuum or in a controlled atmosphere; and

deposits of the catalytic material are made by exposing the substrate to a source of evaporated catalytic material and waiting phases are carried out by shielding the substrate from the source of evaporated catalytic material~~the layer of the catalytic material is in the form of a film.~~

Claim 2 (Currently Amended): The process according to claim 1, wherein the continuous layer of the catalytic material is separated into droplet-shaped bodies by applying a heat treatment.

Claim 3 (Withdrawn – Currently Amended): The process according to claim 1, wherein the continuous layer of the catalytic material is separated into droplet-shaped bodies by applying a hydrogen plasma treatment at low temperature.

Claims 4-5 (Cancelled).

Claim 6 (Previously Presented): The process according to claim 1, wherein the catalytic material is nickel, iron or cobalt.

Claim 7 (Previously Presented): The process according to claim 1, wherein the layer of the catalytic material is formed under partial pressure of oxygen.

Claim 8 (Previously Presented): A process for growing carbon nanotubes or carbon nanofibers, comprising:

preparing a catalyst structure by the method according to claim 1; and  
growing carbon nanotubes or carbon nanofibers on the catalyst structure.

Claim 9 (Previously Presented): The process according to claim 8, wherein the carbon nanotubes or carbon nanofibers are grown by chemical vapor phase deposition.

Claim 10 (Withdrawn): A process for producing substrate having a surface with controlled roughness, comprising:

preparing a catalyst structure by the method according to claim 1;  
forming an oxide layer on the catalyst structure; and  
polishing the resulting structure.

Claim 11 (Cancelled).

Claim 12 (Withdrawn): A process for producing a substrate including a surface with a metal/oxide mix, comprising:

preparing a catalyst structure by the method according to claim 1;  
forming an oxide layer on the catalyst structure; and  
polishing step the resulting structure;  
wherein the catalytic material is a metal.

Claim 13 (Currently Amended): A process for preparing a catalyst structure, comprising:

forming a thermal or diffusion barrier layer on a substrate;  
forming a continuous layer of a catalytic material on a surface of the barrier layer; and  
forming the catalyst structure by separating the continuous layer of the catalytic material into droplet-shaped bodies of the catalytic material adhered to the barrier layer;  
wherein:  
the continuous layer of the catalytic material is in the form of a film;

the surface of the barrier layer has a surface tension lower than a surface tension of the continuous layer of the catalytic material when the continuous layer of the catalytic material is formed on the surface of the barrier layer;

the catalytic material is a material suitable for catalyzing formation of carbon nanotubes or carbon nanofibers;

the continuous layer of the catalytic material is formed by making a sequence of deposits of the catalytic material on to the surface of the barrier layer to form continuous sublayers of the catalytic material separated by waiting phases under a vacuum or in a controlled atmosphere; and

deposits of the catalytic material are made by exposing the substrate to a source of evaporated catalytic material and waiting phases are carried out by shielding the substrate from the source of evaporated catalytic material~~the layer of the catalytic material is in the form of a film.~~

Claim 14 (Currently Amended): The process according to claim 13, wherein the continuous layer of the catalytic material is formed by applying a heat treatment or applying a hydrogen plasma treatment at low temperature.

Claim 15 (Currently Amended): The process according to claim 13, wherein the continuous layer of the catalytic material is formed under partial pressure of oxygen.

Claim 16 (Previously Presented): A process for growing carbon nanotubes or carbon nanofibers, comprising:

preparing a catalyst structure by the method according to claim 13; and  
growing carbon nanotubes or carbon nanofibers on the catalyst structure.

Claim 17 (Previously Presented): The process according to claim 16, wherein the carbon nanotubes or carbon nanofibers are grown by chemical vapor phase deposition.

Claim 18 (Withdrawn): A process for producing a substrate having a surface with a controlled roughness, comprising preparing a catalyst structure by the method according to claim 13;

forming an oxide layer on the catalyst structure; and  
polishing the resulting structure.

Claim 19 (Cancelled).

Claim 20 (Withdrawn): A process for producing a substrate having a surface including a metal/oxide mix, comprising:

preparing a catalyst structure by the method according to claim 13;  
forming an oxide layer on the catalyst structure; and  
polishing the resulting structure;  
wherein the catalytic material comprises a metal.

Claims 21-24 (Cancelled).

Claim 25 (Previously Presented): The process according to claim 13, wherein the barrier layer is a TiN layer or an oxide layer.